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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,727	01/11/2002	Alan K. Sefton	57092.US	1587
408	7590	11/10/2003	EXAMINER	
LUEDEKA, NEELY & GRAHAM, P.C. P O BOX 1871 KNOXVILLE, TN 37901			WERNER, BRIAN P	
		ART UNIT	PAPER NUMBER	
		2621	7	
DATE MAILED: 11/10/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/044,727	SEFTON, ALAN K.
	Examiner Brian P. Werner	Art Unit 2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 January 2002 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5&amp;6</u> .	6) <input type="checkbox"/> Other: _____.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: The US patent application serial number "09/817,752" cited at specification page 3, line 33, appears to be a typo because it corresponds to an application titled HYDRODYNAMIC TYPE BEARING UNIT. Appropriate correction is required.

### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: Claim 12, at line 7, "lest" should be "least". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 7, 10, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kielland (US 6,081,206 A).

Regarding claims 1, 10<sup>1</sup>, 13, 14, a method of recording a location of an object having and object identifier (the location of vehicles having license plates is recorded, as described below), comprising<sup>2</sup>:

conveying around a vicinity in which the object is situated (a patrol vehicle is conveyed around a parking lot where vehicles are parked; see "manager might elected to perform more frequent patrols" at column 26, line 38) an apparatus (i.e., "a patrol vehicle 50" at column 26, line 50; e.g., refer to figure 3) having a camera, a computer, a location means and output means (figure 1 depicts the "patrol vehicle" in block diagram form; it has a camera at numeral 51, a computer at numeral 101, and a location means at numeral 53; the location means 53, which is detailed at column 8, lines 54-65, is equivalent in structure that that which is disclosed by the applicant);

using the camera to capture an image of the object identifier ("video record of when and where the license plates were observed " at column 26, lines 42-44; e.g., refer to figure 4);

using the computer to process the captured image and identify characters of the object identifier ("as soon as a parked car's geo-referenced and time-stamped raster image of has been captured into the host computer 101, the computer applies an "License Plate Recognition" algorithm 11 to the image" at column 12, line 48; "the plate-string recognized in each captured image" at column 14, line 4);

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<sup>1</sup> Claim 10 will be used to exemplify the rejection. However, all of the elements of claim 1 are also met by the Kielland reference as fully addressed in the rejection to follow.

<sup>2</sup> The embodiment relied upon by the examiner begins at column 25, line 50, and is titled "Embodiment That Provides a Locator Map to Client Motorists". This embodiment relies upon and

using the locator to provide an indication of the location of the object ("geo-referenced" at column 11, line 35; "the vehicle's current geographical position (from the positioning subsystem)" at column 12, line 24); and

outputting to a computer database information comprising the characters linked with the location indication ("the parked vehicle's "Epoch-ID" at column 12, line 29; that ID links the plate number with the "current geographical position" along with other data as described at column 12, lines 22-29; this information is stored in the parking facilities "database" at column 26, line 5, so that a client can search for the location of his/her vehicle by entering the license plate number as described at column 26, lines 1-10).

Regarding claims 2 and 11, GPS is used as the locator means ("the system's position sensor 53 is a GPS receiver" at column 13, line 38).

Regarding claim 7, Kielland teaches a wireless transmitter ("radio-frequency transponder" at column 19, line 40).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6, 12, 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kielland (US 6,081,206 A) and Avitzour (US 5,525,883 A).

Regarding each of the above claims, Kielland discloses a vehicle mounted apparatus for determining identification and location information related to one or more objects (i.e., vehicles as disclosed by Kielland) as described in the 102 rejections above. Kielland transmits both information to via wireless communication ("radio-frequency transponder" at column 19, line 40). Kielland uses a locator to provide an indication of the location of the object ("geo-referenced" at column 11, line 35; "the vehicle's current geographical position (from the positioning subsystem)" at column 12, line 24). Specifically, in the preferred embodiment, Kielland relies upon GPS as the locator means ("the system's position sensor 53 is a GPS receiver" at column 13, line 38). However, Kielland does not teach away from other types of locator systems. Rather, Kielland implies that the locator systems described for use with the invention are exemplary and Kielland is open to modification (see "...map-matching etc." at column 8, line 65; "other sub-systems such as ... are also acceptable" at column 15,

lines 23-26). Regarding claims 5 and 6 specifically, Kielland discloses another camera means for capturing the object identifiers on both sides of the patrol vehicle ("two video cameras 51, each camera being oriented towards on of the two sides of the roadway" at column 12, line 12).

Kielland does not teach the one or more objects (i.e., the vehicles) adjacent a location identifier having one or more location identifying characters, the imaging means obtaining an image of the location identifier, and processing the location identifier to determine the location identifying characters, and transmitting location identifying characters. Regarding claim 16 specifically, while Kielland discloses a first imaging system for capture the object identifier as described in the 102 rejections above, Kielland does not discloses a second imaging system capturing the location identifier.

Avitzour discloses a system in the same field of image processing, and same problem solving area of determining a vehicle's location ("location determination" at column 1, line 8), comprising a plurality of location identifiers (e.g., figure 1, numeral 14; "each landmark 14" at column 4, line 9) having one or more location identifying characters ("bits coded in the checkerboard pattern" at column 4, line 19; "contains information about each landmark ... provides the location and orientation of the block in three dimensions" at column 5, lines 10-15), the imaging means obtaining an image of the location identifier (see figure 1 and figure 4, numerals 12-15), and processing the location identifier to determine the location identifying characters (figure 4, numeral 33) and thus the position of the vehicle (figure 4, numeral 36).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to utilize, as Kielland's location determination system of the "parking facility" embodiment, the "landmark" system taught by Avitzour as fully described above, whereby the landmarks of Avitzour are placed on the "floor, a ceiling, [or] a wall" (Avitzour, column 2, line 21) of Kielland's facility for image capture by an additional camera properly positioned to capture the landmarks, whereby the images are processed to determine location information according to teaching of Avitzour. One would be motivated to make this combination based on the openness the explicit teachings of Avitzour. Specifically, Avitzour states that commonly used location determination schemes suffer from "disadvantages" at column 1, line 32. In particular, one such disadvantage of "Satellite-base positioning" (i.e., such as the GPS system of Kielland) is that it "requires a clear communications path to a satellite" (Avitzour, column 1, lines 38-39). This "clear communication" may be disrupted in a "paring facility" such as the one disclosed by Kielland. Further, such systems are "expensive to implement" as described by Avitzour at column 1, line 58. Avitzour solves this problem through the use of the aforementioned "landmarks" that are "insensitive to errors in visual interpretation, and is simple enough to be implemented in a real time system" (Avitzour, column 1, line 66 – column 2, line 1) and that "precisely" determine "position and orientation" (Avitzour, column 2, line 10). Thus, one would be motivated to make the above combination to ensure un-interrupted and robust location determination in an enclosed facility, that yields precise location information, and is simple and inexpensive to implement.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kielland (US 6,081,206 A) and Geiger (US 6,154,010 A).

Kielland discloses a vehicle computer system as depicted in figure 1. While Kielland suggests that "additional I/O elements" and "connections" are within the scope of the invention, Kielland does not teach a connector for connecting the apparatus to external power supply.

Geiger discloses a mobile computer comprising a connector for connection to external power supply ("AC adapters that provide direct current to a mobile computer from an external power source" at column 3, line 19).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to provide the mobile computer of Kielland with a connector for connection to an external power source as taught by Geiger, in order to "conserve limited battery life" (Geiger, column 3, line 18) and "conserve battery power" (Geiger, column 3, line 27) in situations where an external power source is available and accessible.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kielland (US 6,081,206 A) and Ninomiya et al. (US 4,611,292 A).

While Kielland teaches the use of a solid-state cameras ("digital video camera" at column 8, line 45; digital cameras are solid state; i.e., they utilize solid state image sensors such as CCDs, as opposed to vacuum tubes such as vidicons), Kielland does not teach an infrared camera having an infrared illuminator.

First, it is noted that solid state image sensors are sensitive to infrared light, unless that light is intentionally filtered out. Ninomiya recognizes this fact as described below.

Ninomiya discloses an image processing system where a camera means is mounted on a moving vehicle (figure 19), comprising the use of an infrared camera having an infrared illuminator ("usually, the maximum sensitivity wavelength of the areal solid-state is near 800 nm" and "when light emitting diode of this wavelength is used, the detection sensitivity can be maximized" at column 9, lines 33-37; an 800nm wavelength is infrared light).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to illuminate the objects requiring image capture by Kielland, using infrared light as taught by Ninomiya, in order to maximize the sensitivity of the solid state image sensor disclosed by Kielland. One would be motivated to maximize the sensitivity because it serves to increase the signal-to-noise ratio, thus resulting in a less noisy, clearer image of the object.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kielland (US 6,081,206 A) and Avitzour (US 5,525,883 A) as applied to claim 16, and further in view of Ninomiya et al. (US 4,611,292 A).

While the Kielland and Avitzour combination teaches the use of a solid-state cameras (Kielland: "digital video camera" at column 8, line 45; digital cameras are solid state; i.e., they utilize solid state image sensors such as CCDs, as opposed to vacuum

tubes such as vidicons), the Kielland and Avitzour combination does not teach an infrared camera having an infrared illuminator.

First, it is noted that solid state image sensors are sensitive to infrared light, unless that light is intentionally filtered out. Ninomiya recognizes this fact as described below.

Ninomiya discloses an image processing system where a camera means is mounted on a moving vehicle (figure 19), comprising the use of an infrared camera having an infrared illuminator ("usually, the maximum sensitivity wavelength of the areal solid-state is near 800 nm" and "when light emitting diode of this wavelength is used, the detection sensitivity can be maximized" at column 9, lines 33-37; an 800nm wavelength is infrared light).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to illuminate the objects requiring image capture by the Kielland and Avitzour combination, using infrared light as taught by Ninomiya, in order to maximize the sensitivity of the solid state image sensor disclosed by Kielland. One would be motivated to maximize the sensitivity because it serves to increase the signal-to-noise ratio, thus resulting in a less noisy, clearer image of the objects.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Werner whose telephone number is 703-306-3037. The examiner can normally be reached on M-F, 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Brian Werner  
Primary Examiner  
Art Unit 2621  
November 5, 2003



BRIAN WERNER  
PRIMARY EXAMINER